



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/888,340	06/22/2001	Michael Neal	DEM1P007	7213
36088	7590	12/23/2005	EXAMINER ROBINSON BOYCE, AKIBA K	
KANG LIM 3494 CAMINO TASSAJARA ROAD #436 DANVILLE, CA 94306			ART UNIT 3639	PAPER NUMBER

DATE MAILED: 12/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/888,340

Applicant(s)

NEAL ET AL

Examiner

Akiba K. Robinson-Boyce

Art Unit

3639

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 11 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 12/5/05.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

Art Unit: 3639

## DETAILED ACTION

### *Status of Claims*

1. Due to communications filed 10/11/05, the following is a final office action. Claims 1, 2, 4, 10, 11, 12, 13 and 19 have been amended. Claim 20 has been cancelled. Claims 1-19 are pending in this application and have been examined on the merits. Due to the amendment filed 10/11/05, the previous rejection has been withdrawn, and the following reflects the claims as amended. Claims 1-19 are rejected as follows.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Damian et al (US 5,212,791).

As per claims 1, 11, Damian et al discloses:

computer readable code for storing a plurality of rules/storing a plurality of rules, (col. 107, lines 37-42, shows memory for string the set of rules, w/ col. 9, lines 63-64, shows hard coded rules applied);

computer readable code for allowing the prioritization of the plurality

of rules/ allowing the prioritization of the plurality

Art Unit: 3639

of rules, (col. 10, line 5, line 15, lines 40-41, shows low, medium and high priority rules respectively); and

computer readable code for relaxing at least one lower priority rule to

allow a higher priority rule to become feasible/ relaxing at least one lower priority rule to allow a higher priority rule to become feasible, (Col. 5, lines 30-34, attaining feasible schedules, w/ col. 108, lines 37-46, lowering error counts [medium rules] to alter disposition rules [high priority rules] thereby relaxing rules to make schedule more feasible); and

computer readable code for computing the preferred set of prices wherein the preferred set of prices meets the plurality of rules, (Col. 5, lines 35-38, shows that cost benefits of one schedule over another are determined, where the cost of making the schedule that has benefits represents the preferred set of prices, in this case, the system is a rule based scheduling system, therefore any parameter considered when determining a schedule must meet rules used to determine the schedule, which in this case are the prices);

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 3639

5. Claims 2-4, 10, 12, 13, 19, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Damian et al (5,212,791) as applied to claim 1 above, and further in view of Ouimet et al, (US 6,094,641).

As per claims 2, 12, Damian et al fails to disclose the following, but does disclose a production scheduling system that implements dynamic scheduling for products in the abstract, lines 1-5.

However, Ouimet et al discloses:

an econometric engine for modeling sales as a function of price to create a sales model/creating a sales model, (Col. 4, lines 35-44, [demand model gives predicted sales of an item based on price]);

a financial model engine for modeling costs to create an activity based cost model/creating an activity based cost model, wherein the generating a preferred set of prices uses information from the creation of the sales model and the creation of the cost model, (col. 4, lines 52-53, [pricing model], which includes an activity-based cost model since the prices are determined for sales, in this case the activity is selling, Col. 2, lines 1-12, including visibility, and taking the promotional cost into account when modifying the demand model, in this case, the module is inherent with Ouimet since Ouimet's system is computer-implemented and in order to create models, a module is necessary in a computerized system ); and

wherein the optimization engine is coupled to the econometric engine and financial model engine to receive input from the econometric engine and financial model engine, wherein the optimization engine generates the preferred set of prices, (Col. 5,

Art Unit: 3639

lines 45-48, [using fitted, modified demand model to determine price that will maximize profits, {optimization}]).

Ouimet et al discloses this limitation in analogous art for the purpose of showing how products can be implemented in models.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to implement an econometric engine, a financial model engine and an optimization engine with the motivation of ultimately optimizing prices.

As per claim 3, Damian et al discloses:

further comprising a support tool for allowing a user to set a plurality of rules and for prioritizing the plurality of rules, (col. 2, lines 29-31, interference engine).

As per claims 4, 10, 13, 19, Damian et al discloses:

computer readable code for determining a priority of a rule determined to be infeasible/ determining a priority of a rule determined to be infeasible,/determining the lowest priority infeasible rule (Col. 5, lines 46-47, using computer scheduler to determine when no feasible outcome is available, col. 6, lines 21-31, shows lowest leveling hierarchy maintains the up-to-date status of each production resource, w/ col. 108, lines 21-24, shows process is repeated to find feasible outcome, therefore the lowest level in the hierarch is repeatedly used to find feasible outcome);

computer readable code for determining a lowest priority infeasible rule, (Col. 10, lines 5-8, shows an example of when a low priority rule becomes active, it picks a "child" schedule just generated and uses it a "parent" to generate further children, therefore the determination of the lowest priority rule is obvious since further children schedules

Art Unit: 3639

are produced which are of lower priorities of the already low priority "parent" schedule, and order to produce a lower priority schedule, the lowest priority schedule must be known in order for production to take place).

computer readable code for determining if at least one rule with a lower priority than the priority of the rule determined to be the lowest priority infeasible rule may be relaxed to allow the rule determined to be the lowest priority infeasible rule to become feasible; and computer readable code for relaxing at least one rule with a lower priority than the priority of the rule determined to be the lowest priority infeasible rule to allow the rule determined to be the lowest priority infeasible rule to become feasible/ determining if at least one rule with a lower priority than the priority of the rule determined to be infeasible/lowest priority infeasible rule may be relaxed to allow the rule determined to be infeasible to become feasible; relaxing at least one rule with a lower priority than the priority of the rule determined to be infeasible/lowest priority infeasible rule to allow the rule determined to be infeasible to become feasible, (col. 5, lines 47-48, obtaining feasible schedules, and easing constraints until an acceptable schedule is obtained).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to determine a lowest priority infeasible rule with the motivation of using this lower priority rule to produce the lowest priority schedules.

6. Claims 5-9, and 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Damian et al (5,212,791) as applied to claim1 above, and further in view of Ouimet et al, (US 6,094,641), and further in view of Ouimet et al (6,308,162).

Art Unit: 3639

As per claims 5, 14, neither Damian et al nor Ouimet et al '641 disclose wherein at least one of the plurality of rules is a gross margin rule, which defines a constraint on the change of gross margin, but Damian et al does disclose a production scheduling system that implements dynamic scheduling for products in the abstract, lines 1-5.

However, Ouimet et al '162 discloses:

wherein at least one of the plurality of rules is a gross margin rule, which defines a constraint on the change of gross margin, (col. 4, lines 5-10, use of enterprise model to show increase in gross margin, w/ Col. 9, lines 21-27, shows scenario analysis routine implemented with the gross margin). Ouimet et al '162 discloses this limitation in an analogous art for the purpose of showing how the gross margin is implemented in the optimization of enterprise planning models.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention for a rule to be a gross margin rule with the motivation of ultimately having a definition of rules in a gross marginal situation.

As per claims 6, 15, neither Damian et al nor Ouimet et al '641 disclose wherein the constraint on change of the gross margin is placed on each product of a group of products, but Damian et al does disclose a production scheduling system that implements dynamic scheduling for products in the abstract, lines 1-5.

However, Ouimet et al '162 discloses:

wherein the constraint on change of the gross margin is placed on each product of a group of products, (col. 4, lines 22-23, shows use of models to price products).



Art Unit: 3639

Ouimet et al '162 discloses this limitation in an analogous art for the purpose of showing that price is implemented into the equation for determining gross margin.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention for the constraint on change of the gross margin to be placed on each product of a group of products with the motivation of ensuring that each product will stay in a specific price range that will allow the gross margin to be achieved.

As per claims 7, 16, neither Damian et al nor Ouimet et al '641 disclose wherein the constraint on change of the gross margin is placed on an average gross margin of a group of products, but Damian et al does disclose a production scheduling system that implements dynamic scheduling for products in the abstract, lines 1-5.

However, Ouimet et al '162 discloses:

wherein the constraint on change of the gross margin is placed on an average gross margin of a group of products, (col. 13, lines 29-41, where the auxiliary goal [finding gross margin] is represented by the average price, see col. 9, lines 24-26).

Ouimet et al '162 discloses this limitation in an analogous art for the purpose of showing how the gross margin is implemented in the optimization of enterprise planning models.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention for the constraint on change of the gross margin to be placed on an average gross margin of a group of products with the motivation of ensuring that each product will stay in a specific price range that will allow an average gross margin to be achieved.

Art Unit: 3639

As per claims 8, 17, neither Damian et al nor Ouimet et al '641 disclose wherein at least one of the plurality of rules is a store level volume rule, which defines a constraint on the change of volume of sales at a store level, but Damian et al does disclose a production scheduling system that implements dynamic scheduling for products in the abstract, lines 1-5.

However, Ouimet et al '162 discloses:

wherein at least one of the plurality of rules is a store level volume rule, which defines a constraint on the change of volume of sales at a store level, (col. 5, lines 43-64; total amount of sales). Ouimet et al '162 discloses this limitation in an analogous art for the purpose of showing that the total amount of sales is implemented in the optimization of enterprise planning models.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention for at least one of the plurality of rules to be a store level volume rule, which defines a constraint on the change of volume of sales at a store level with the motivation of ensuring that each product will stay at a specific volume that will allow a gross margin to be achieved.

As per claims 9, 18, neither Damian et al nor Ouimet et al '641 disclose wherein at least one of the plurality of rules is a competition rule, which provides a constraint on the difference between at least one competitor's prices, but Damian et al does disclose a production scheduling system that implements dynamic scheduling for products in the abstract, lines 1-5.

However, Ouimet et al '162 discloses:

wherein at least one of the plurality of rules is a competition rule, which provides a constraint on the difference between at least one competitor's prices, (col. 10, lines 34-39, using competitive data to find price image). Ouimet et al '162 discloses this limitation in an analogous art for the purpose of showing that competitor's prices are implemented in the optimization of enterprise planning models.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention for at least one of the plurality of rules to be a competition rule, which provides a constraint on the difference between at least one competitor's prices with the motivation of ensuring that each product will stay at a specific price lower than competitor's prices so a gross margin can be achieved.

### ***Response to Arguments***

7. Due to the amendment filed 10/11/05, the 35 U.S.C. 112 rejection given to claims 1-19 in the in the previous action has been withdrawn by the examiner.

Applicant's arguments filed 10/11/05 have been fully considered but they are not persuasive.

As per claims 1 and 11, the applicant argues that as amended, Damian does not disclose these claims. Specifically, the applicant argues that Damian et al fails to disclose, "computing a preferred set of prices". However, in col. 5, lines 35-38, Damian et al shows that cost benefits of one schedule over another are determined. Here, the cost of making the schedule that has benefits represents the preferred set of prices. Damian et al also discloses that the system is a rule based scheduling system,

Art Unit: 3639

therefore any parameter considered when determining a schedule must meet rules used to determine the schedule, which in this case are the prices

As per claims 2 and 12, the applicant argues that Damian et al fails to disclose "modeling sales as a function of price". However, as disclosed in the previous action, sales are modeled as a function of price in col. 4, lines 35-44 of Ouimet et al '641.

Here, Ouimet et al '641 discloses a demand model that gives predicted sales of an item based on price. The applicant argues that the "demand model" disclosed by Ouimet et al '641 is used to predict consumer demand for a particular item, but not to predict sales as a function of price. However, it specifically discloses that in general, demand models give the predicted sales of an item based upon its price in col. 4, lines 42-43.

As per claims 2 and 12, the applicant furthermore argues that Ouimet et al '641 does not teach, "grouping a plurality of highly substitutable products into demand groups". However, claim 2 recites: "an econometric engine for modeling sales as a function of price to create a sales model; and a financial model engine for modeling costs to create an activity based cost model, wherein the optimization engine is coupled to the econometric engine and financial model engine to receive input from the econometric engine and financial model engine and, wherein the optimization engine generates the preferred set of prices", and claim 12 recites "creating a sales model; and creating an activity based cost model, wherein the generating a preferred set of prices uses information from the creation of the sales model and the creation of the cost model". The limitation of "grouping a plurality of highly substitutable products into

Art Unit: 3639

demand groups" does not exist in claims 2 or 12, and therefore, the argument made by the applicant is moot.

As per claims 2 and 12, the applicant argues that as amended Ouimet et al '641 does not disclose that the cost model is "an activity based" cost model. Specifically, the applicant discloses that promotional cost as defined by Ouimet '641 refers to "the amount of money spent on the promotion", and in contrast, the activity-based costing as recited in claims 2 and 12 include costing activities such as activities associated with stocking costs at a distribution center, transportation costs, receiving costs, inventory costs, labor costs, bag costs, checkout costs, and invoice related costs. However, col. 4, lines 52-53 of Ouimet 641' discloses a pricing model that predicts perceived prices for sales activity. In this case, this model is activity based since the prices are determined for sales; in this case the activity is selling.

The applicant also argues that with respect to the optimization of the preferred set of prices, Ouimet '641 teaches away from this since the present invention incorporates constraints that limit the preferred set of prices that are deemed acceptable by a pricing analyst or a category manager and the optimization routines must deliver prices that conform to them. However, in Col. 5, lines 45-48, Ouimet '641 uses a fitted, modified demand model to determine price that will maximize profits, which is a way of optimizing the price to get maximum profit.

As per claims 4, 10, 13, and 19, the applicant argues that Damian et al does not disclose "determining the lowest priority infeasible rule", or "determining if at least one rule with a lower priority than the priority of the rule determined to be infeasible may be

relaxed to allow the rule determined to be infeasible to become feasible". However as disclosed above in the rejection, Damian et al discloses an example of when a low priority rule becomes active, it picks a "child" schedule just generated and uses a "parent" to generate further children in Col. 10, lines 5-8. Since this is the case, the determination of the lowest priority rule is therefore obvious since further children schedules are produced which are of lower priorities of the already low priority "parent" schedule, because in order to produce a lower priority schedule, the lowest priority schedule must be known in order for production to take place. Also as disclosed above in the rejection, Damian et al discloses obtaining feasible schedules, and easing constraints [which directly relate to predefined rules] until an acceptable schedule is obtained in col. 5, lines 47-48, which represents the relaxing of rules.

In addition, the applicant argues that the Damian et al reference is unrelated to the system of the present invention since Damian et al relates "more particularly to a technique for employing a knowledge base system to dynamically schedule production of parts on a plurality of manufacturing machines", and the present invention relates to price optimization. However, although Damian et al does disclose a method for operating a computer system to generate schedules for a plurality of orders, Damian et al also discloses a method for attempting to achieve an optimal schedule as disclosed in col. 2, lines 58. In the process of finding this optimal schedule, cost benefits of one schedule over another are implemented in developing an optimal schedule as shown in col. 5, lines 35-38, and therefore, the price needed to develop schedules must be optimized to result in an optimized schedule.

Art Unit: 3639

In sum, base claims 1 and 11 are still rejected as disclosed above. Therefore, dependent claims 2, 4, 10, 12, 13, 19, 3, 5-9 and 14-18 are also still rejected for at least the same reasons.

### ***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

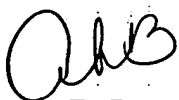
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Akiba K Robinson-Boyce whose telephone number is 571-272-6734. The examiner can normally be reached on Monday-Friday 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Hayes can be reached on 571-272-6708. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7238

Art Unit: 3639

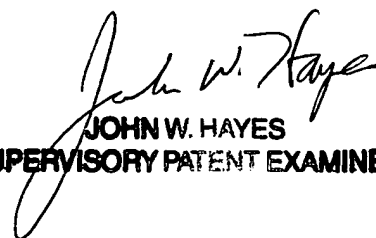
[After final communications, labeled "Box AF"], 703-746-7239 [Official Communications], and 703-746-7150 [Informal/Draft Communications, labeled "PROPOSED" or "DRAFT"].

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.



A. R. B.

December 14, 2005



**JOHN W. HAYES**  
**SUPERVISORY PATENT EXAMINER**